WHAT IS CLAIMED IS:

1. A light-emitting-element array, comprising:

a current-blocking layer;

a semiconductor layer of a first conductive type formed on the current-blocking layer, divided by an isolation trench into a first semiconductor region and a remaining semiconductor region, the remaining semiconductor region being electrically isolated from the first semiconductor region;

a plurality of light-emitting elements formed by diffusion of an impurity of a second conductive type into a surface of the semiconductor layer, the light-emitting elements being disposed in an array divided by the isolation trench into segments including at least one light-emitting element each, the segments being disposed alternately in the first semiconductor region and the remaining semiconductor region;

a first shared interconnecting pad electrically coupled to the light-emitting elements in the first semiconductor region by electrical paths not crossing the isolation trench; and

a second shared interconnecting pad electrically coupled to the light-emitting elements in the remaining semiconductor region by electrical paths crossing the isolation trench.

2. The light-emitting-element array according to claim 1, wherein each of the segments of the array of light-emitting elements includes just one light-emitting element.

3. The light-emitting-element array according to claim 1, wherein each of the segments of the array of light-emitting elements includes just two light-emitting elements.

4. The light-emitting-element array according to claim 1, wherein the isolation trench is linear.

5. The light-emitting-element array according to claim 1, wherein the array of light-emitting elements is linear.

6. The light-emitting-element array according to claim 1, wherein the isolation trench has a square-wave configuration weaving through the array of light-emitting elements.

7. The light-emitting-element array according to claim 6, wherein the first and second shared interconnecting pads are disposed in the first semiconductor region, further comprising:

a number of separate interconnecting pads equal to half the total number of the light-emitting elements in the array, the separate interconnecting pads being disposed in the remaining semiconductor region, each of the separate interconnecting pads being electrically coupled to a mutually adjacent pair of light-emitting elements, the two light-emitting elements constituting the mutually adjacent pair belonging to different segments of the array.

8. The light-emitting-element array according to claim 1, wherein the isolation trench surrounds each of the segments disposed in the remaining semiconductor region, thereby dividing the remaining semiconductor region into mutually isolated subregions.

9. The light-emitting-element array according to claim 8, wherein the isolation trench also isolates the first semiconductor region from a part of the remaining semiconductor region not including any segments of the array

of light-emitting elements.

10. The light-emitting-element array according to claim 9, wherein the first and second shared interconnecting pads are disposed in the first semiconductor region, further comprising:

a number of separate interconnecting pads equal to half the total number of the light-emitting elements in the array, the separate interconnecting pads being disposed in the part of the remaining semiconductor region not including any segments of the array, each of the separate interconnecting pads being electrically coupled to a mutually adjacent pair of light-emitting elements, the two light-emitting elements constituting the mutually adjacent pair belonging to different segments of the array.

11. The light-emitting array according to claim 1, wherein the first conductive type is n-type and the second conductive type is p-type.

12. The light-emitting array according to claim 11, wherein the semiconductor layer comprises:

an n-type $Al_yGa_{1-y}As$ layer, where $1 > y > 0$;

an n-type $Al_zGa_{1-z}As$ layer overlying the n-type $Al_yGa_{1-y}As$ layer, where $1 > z > y > 0$;

an n-type $Al_xGa_{1-x}As$ layer underlying the n-type $Al_yGa_{1-y}As$ layer, where $1 > x > y > 0$; and

an n-type GaAs contact cap layer having an interface with the n-type $Al_zGa_{1-z}As$ layer;

wherein the light-emitting elements have bottom diffusion fronts and lateral diffusion fronts, the bottom diffusion fronts being located in the n-type $Al_yGa_{1-y}As$ layer, parts of the n-type GaAs contact cap layer including the lateral diffusion fronts being removed to eliminate pn

junctions therein.

13. The light-emitting-element array according to claim 12, wherein the impurity of the second conductive type is zinc.

14. An optical printing head comprising at least one light-emitting-element array as recited in claim 1.

15. The optical printing head according to claim 14, further comprising:

a base for supporting the light-emitting-element array;

a rod lens array for focusing the light emitted by the light-emitting elements in the light-emitting-element array;

a holder for holding the rod lens array; and

at least one clamp for holding the base and the holder together.

16. An electrophotographic printer comprising at least one optical printing head having at least one light-emitting-element array as recited in claim 1.

17. The electrophotographic printer according to claim 16, further comprising:

a photosensitive drum selectively illuminated by the light-emitting elements in the optical printing head to form a latent electrostatic image;

a developing unit for supplying toner to develop the latent electrostatic image on the photosensitive drum; and

a transfer roller for transferring the developed image from the photosensitive drum to printing media.